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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/581,760	06/05/2006	Thomas Bogdahn	52201-0650	6589

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EXAMINER	
SZEWCZYK, CYNTHIA	
ART UNIT	PAPER NUMBER
1791	

MAIL DATE	DELIVERY MODE
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/581,760	BOGDAHN ET AL.	
	Examiner	Art Unit	
	CYNTHIA SZEWCZYK	1791	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *15 June 2009 and 29 June 2009*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,2,5-11,18-21 and 24-33* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,2,5-11,18-21 and 24-33* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

2. Claims 1, 2, 5-11, 18, 20, 21, and 24-33 are rejected under 35 U.S.C. 103(a) as being unpatentable over BOGDAHN et al. (US 6,098,428) in view of YAMAMURA et al. (US 6,742,363 B1).

BOGDAHN et al. teaches a process for drawing glass fiber using prediction of future geometric parameters. BOGDAHN discloses that the method comprises continuously feeding a glass cylinder to a heating zone (col. 2, lines 11-13) having a vertically oriented heating tube (figure 1); zonewise softening the glass cylinder (col. 2, lines 13-14); and drawing a glass strand from the softened glass cylinder (col. 1, lines 6-7). Although BOGDAHN does not explicitly teach cutting the glass strand to size it would have been obvious to one of ordinary skill in the art to cut the glass strand after drawing in order to produce a finished product to specification. BOGDAHN teaches an adjusting means to correct any deviation in the wall thickness (col. 7, lines 27-41). BOGDAHN discloses that the adjusting operation comprises the steps of measuring an actual state of a radial circular or annular dimension of the test glass strand (col. 5, lines 32-34), determining a deviation between the actual state and a desired state (col. 5, lines 35-36), and calculating a corrected variable (col. 5, lines 39-41). BOGDAHN is silent to repositioning the glass tube along the longitudinal axis, which would adjust the xy-position of the glass cylinder.

YAMAMURA et al. teaches a method and apparatus for straightening a glass rod. YAMAMURA et al. discloses that a glass cylinder is fed into the heating zone (col. 2, lines 37-38) (continuous feeding). Passing the glass body through the furnace would cause zonewise heating. YAMAMURA et al. discloses that the glass body is then passed through a drawing apparatus (col. 6, lines 17-18). YAMAMURA et al. discloses that the apparatus contains a sensing apparatus (col. 9, lines 60-61) capable of measuring an actual state (col. 10, lines 6-8) such as position (col. 9 lines 56-60), means to determine a deviation (col. 10, lines 6-8), means to calculate a corrected position (col. 10, lines 9-11) and a position control unit to reposition the glass body by controlling the rotation speed of the roller (col. 10, lines 13-16). It would have been obvious to one of ordinary skill in the art to correct the xy- position and in turn, the longitudinal axis in BOGDAHN by the adjustment provided by YAMAMURA because YAMAMURA discloses that if uncorrected, bending may occur (col. 10, lines 57-59).

Regarding claim 2, BOGDAHN et al. teaches that measurements of outside diameter and wall thickness are made optical instruments, which obviously would be able to produce optical images, or video cameras (col. 9, lines 1-6).

Regarding claim 5, YAMAMURA et al. discloses that the preferred outer diameter is 30-80 mm, whereas BOGDAHN is silent as to the outer diameter but states that it is a variable (col. 5, lines 21-23).

Regarding claim 6, YAMAMURA et al. discloses that rod is rotated (col. 9, lines 24-25), which would result in distribution measurements being taken about the circumference of the glass.

Regarding claim 7, it would have been obvious to one of ordinary skill in the art that if numerous pieces of the glass strand were run through the apparatus, measurements would be taken on all of the pieces.

Regarding claim 8, YAMAMURA et al. discloses that the position correction unit determines a correction factor (col. 10, lines 9-10). It would have been obvious that one of ordinary skill in the art could achieve the claimed correction factor with YAMAMURA et al. due to the amount of deviation measured.

Regarding claim 9, BOGDAHN et al. discloses that it is most effective to have multiple measuring devices (col. 9, lines 7-9). BOGDAHN et al. discloses that multiple measuring sites ensure dimensional accuracy by determining whether the glass is still undergoing deformation (col. 9, lines 11-13).

Regarding claim 10, YAMAMURA et al. discloses that the repositioning of the glass cylinder to a corrected position is performed by a position control unit (col. 10, line 13) (controlled transportation).

Regarding claim 11, it would have been obvious to one of ordinary skill in the art that any material used during testing of the apparatus would be considered test material.

Regarding claim 18, BOGDAHN et al. discloses that the glass may be quartz (col. 9, line 67).

Regarding claim 20, see the discussion of claim 1 above. YAMAMURA et al. discloses that the position control unit reduces the deviation to zero (col. 10, lines 9-12)

which indicates that the position control unit considers any deviation to be a value indicative of lopsidedness.

Regarding claim 21, it would have been obvious to one of ordinary skill in the art to repeat the position control because YAMAMURA et al. discloses that the shapes of the elongation rollers changes with time which may result in deformation of the glass (col. 10, lines 27-35).

Regarding claim 24, see the discussion of claim 2 above.

Regarding claim 25, see the discussion of claim 1 above. BOGDAHN discloses that the control system can be used to correct the heating of the glass (col. 15, lines 49-53).

Regarding claim 26, see the discussion of claim 2 above.

Regarding claim 27, see the discussion of claim 8 above.

Regarding claim 28, BOGDAHN discloses that the properties are measured at a plurality of points on the glass (col. 9 lines 7-18).

Regarding claim 29, BOGDAHN discloses the cylindrical body may be a hollow quartz glass (col. 1 lines 22-23).

Regarding claim 30, BOGDAHN discloses the cylindrical body may be a quartz glass rod (col. 1 lines 22-23).

Regarding claim 31, BOGDAHN discloses that the apparatus is operated with fuzzy logic controllers (col. 9 lines 49-52) wherein it would have been obvious to one of ordinary skill in the art that computers are able to run fuzzy logic control systems.

Regarding claim 32, it would have been obvious to one of ordinary skill in the art that the process could be applied to glass of various quality levels, wherein lower quality glass could be considered a test glass and glass of higher quality would be used as the final product.

Regarding claim 33, see the discussion of claim 8 above.

3. Claim 19 is rejected under 35 U.S.C. 103(a) as being unpatentable over BOGDAHN et al. (US 6,098,428) in view of YAMAMURA et al. (US 6,742,363 B1) as applied to claims 1, 2, 5-11, 18, 20, 21, and 24 above, and further in view of YOKOKAWA et al. (US 5,785,729).

BOGDAHN as modified by YAMAMURA discloses a process and apparatus for straightening a glass rod. Modified BOGDAHN fails to teach the diameter range of instant claim 19.

YOKOKAWA et al. teaches that it is well known that conventional quartz tubes for optical fibers have an outer diameter of 15-20 mm (col. 2, lines 25-27), which would overlap with the range of instant claim 19. It would have been obvious that the tube of modified BOGDAHN would be capable of the diameter range disclosed by YOKOKAWA et al. because modified BOGDAHN teaches a quartz tube for optical fibers and states that the outer diameter is a variable in the process (col. 5, lines 21-23).

Response to Arguments

4. Applicant's arguments filed June 15, 2009 have been fully considered but they are not persuasive. Applicant argues on pages 10-13 that BOGDAHN in view of YAMAMURA fails to teach step c of the claimed process. It is noted that applicant writes on page 12 that "Yamamura system does calculate a corrected xy-position"; it is assumed that this is a typo by the applicant and not an agreement with the examiner. Applicant argues that BOGDAHN says nothing about xy-position, however, BOGDAHN is combined with YAMAMURA to teach that xy-position is a variable known to be controlled in drawing glass cylinders. APPLICANT argues that YAMAMURA does not calculate an xy-position, however, BOGDAHN teaches a step of calculating a corrected variable, which in the combination with YAMAMURA would provide a corrected xy-position. Also, it is noted that the xy-position of YAMAMURA is determined by measuring the diameter of the glass cylinder (col. 9 lines 56-60) and BOGDAHN also teaches measuring the diameter (col. 8 lines 50-54). It is also noted that the position control unit of YAMAMURA would be capable of calculating a corrected position since YAMAMURA cites that it is an objective to reduce the deviation of the position to zero, and in order to reduce the deviation (col. 10, lines 6-16), the position controller could determine the corrected position by reducing the deviation to zero.

5. In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208

USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

Conclusion

6. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to CYNTHIA SZEWCZYK whose telephone number is (571)270-5130. The examiner can normally be reached on Monday through Thursday 7:30 am to 5 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steven Griffin can be reached on (571) 272-1189. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

CS

/Eric Hug/
Primary Examiner, Art Unit 1791